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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/074,135	02/12/2002	Peter Thoma	US 20 01 0575	6579

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EXAMINER

SCOTT JR, LEON

ART UNIT

PAPER NUMBER

2828

DATE MAILED: 07/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/074,135

Applicant(s)

THOMA ET AL.

Examiner

Leon Scott, Jr.

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.

- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

  
Leon Scott, Jr.  
Primary Examiner

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**The following is a quotation of the second paragraph of 35 U.S.C. 112:**

**The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.**

**Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

**In line 3 of claim 1, it is not clear within the context of claim language how the laser medium is adapted to emit a laser beam; claim 1 is indefinite and incomplete. In lines 6 and 7 of claim 1, it is not clear within the context of claim language how the wavelength tunable filter is adapted for tuning; claim 1 is indefinite and incomplete. In lines 12-14 of claim 1, it is not clear what does the output beam coupling; claim 1 is indefinite and incomplete. In claim 7 how is the cavity mirror *provided to be partly transparent*, what does the providing; claim 7 is indefinite and incomplete. In claim 9 how is the back facet of the laser medium *provided to be partly transparent* what does the providing; claim 9 is indefinite and incomplete.**

**The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:**

**A person shall be entitled to a patent unless –**

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**(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.**

**Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by**

**Zorabedian et al (6,282,215) (see figs. 1A-8A).**

**Zorabedian et al ( '215) discloses:**

**Claim 1: A laser medium (102) having a back facet (104) and a front surface (106), whereby the laser medium emits a laser beam through the front surface (106) into an external cavity defined in length by a cavity end mirror (122) reflecting the laser beam back towards the laser medium (see col. 4 lines 35-48) and a wavelength tunable filter (162) between the laser medium and the cavity end mirror (122) for tuning the wavelength of the laser beam, wherein the laser medium (102), the wavelength tunable filter (162), and the cavity end mirror (122) are arranged in a spatially linear cavity structure substantially in a line without angular re-direction of the laser beam in the cavity between the laser medium and the cavity end mirror (see fig. 1A and col. 4 lines 49-67 and col. 5 lines 1-67), at least one portion of the laser beam within the cavity after passing the wavelength tunable filter and before again passing the laser medium is coupled out as an output beam, and the cavity end mirror is partly transparent for coupling out a first output beam (see col 5 lines 41-46).**

**Claim 3: With regard to the back facet of the medium being partly transparent so that a portion of the laser beam within the cavity is coupled out as a second output beam, (see col 5 lines 41-46).**

**The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:**

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**(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.**

**Claims 2,4-8,and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zorabedian et al (6,282,215), as applied above. .**

**Claim 2: With regard to the beam splitter of claim 2 such elements are well-known in the art for their ability to pass a portion of the beam while splitting out another portion of the beam; thus, it would be obvious to one of ordinary skill in the art desiring to take a portion of the beam out of the linear direction to use a beam splitter to accomplish this result. Further it would be obvious that the beam could be taken out at any location between element 106 and 114 to include between elements 130 and 106. Applicants device is obvious.**

**Claim 4: With regard to at least one of the laser medium (103) or the cavity end mirror (122) being moveable in the linear direction to adjust the optical path length of the cavity to the wavelength tuning provided by the wavelength tunable filter (162), it would be obvious to one of ordinary skill in the art given the teaching of using one translator (144)(see col.5 lines 47-65 and col.6 lines 1-27) that one desiring to adjust the optical path length of the cavity would be motivated to use a translator to adjust the path length of the cavity by translating the gain medium or the cavity end mirror. If desired. Applicants device is obvious.**

**Claim 5: With regard to a synchronizing unit to synchronize the optical path length of the cavity with the wavelength tuning provided by the wavelength tunable filtering order to**

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**provide the laser beam to be substantially mode hop free when tuning the wavelength, ( see col. 6 lines 16-33). H synchronizing unit is inherent in the reference device. Applicants device is obvious.**

**Claim 6: and claim 7: (see col. 5 lines 41-46) (see col. 4 lines 35-48). The Applicants device is obvious.**

**Claim 8: With regard to the beam splitter of claim 8 ,as indicated in claim 2 above, such elements are well-known in the art for their ability to pass a portion of the beam while splitting out another portion of the beam; thus, since beams 150-152 exit the cavity (see col. 5 lines 41-46); it would be obvious that one of ordinary skill in the art desiring to take a third beam out of the cavity would be motivated to use a beam splitter to accomplish this result. It would further be obvious that the beam could be taken out at any location between element 106 and 114 to include between elements 130 and 106. Applicants device is obvious.**

**Claim 9: (see col 5 lines 41-46 and claim 3 above). Applicants device is obvious.**

**Zorabedian (6,108,355) is cited for its teaching of a continuously tunable external cavity laser.**

**Green et al (2002/0126345) is cited for its teaching of a method and apparatus for filtering an optical beam.**


**Zorabedian et al (6,526,071) is cited for its teaching of a tunable laser transmitter with internal wavelength grid genertors.**

**Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leon Scott, Jr. whose telephone number is 703-308-4884. The**

**examiner can normally be reached on Monday - Friday, 6:30am - 5:00pm.**

**If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul P. Ip can be reached on (703)308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7721 for regular communications and 703-308-2864 for After Final communications.**

**Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-3431.**

  
Leon Scott, Jr.  
Primary Examiner  
**Leon Scott, Jr.**  
**Primary Examiner**  
**Art Unit 2828**

**lsjr**  
**July 5, 2003**